

Topic 2: Plants

In this lesson you will learn

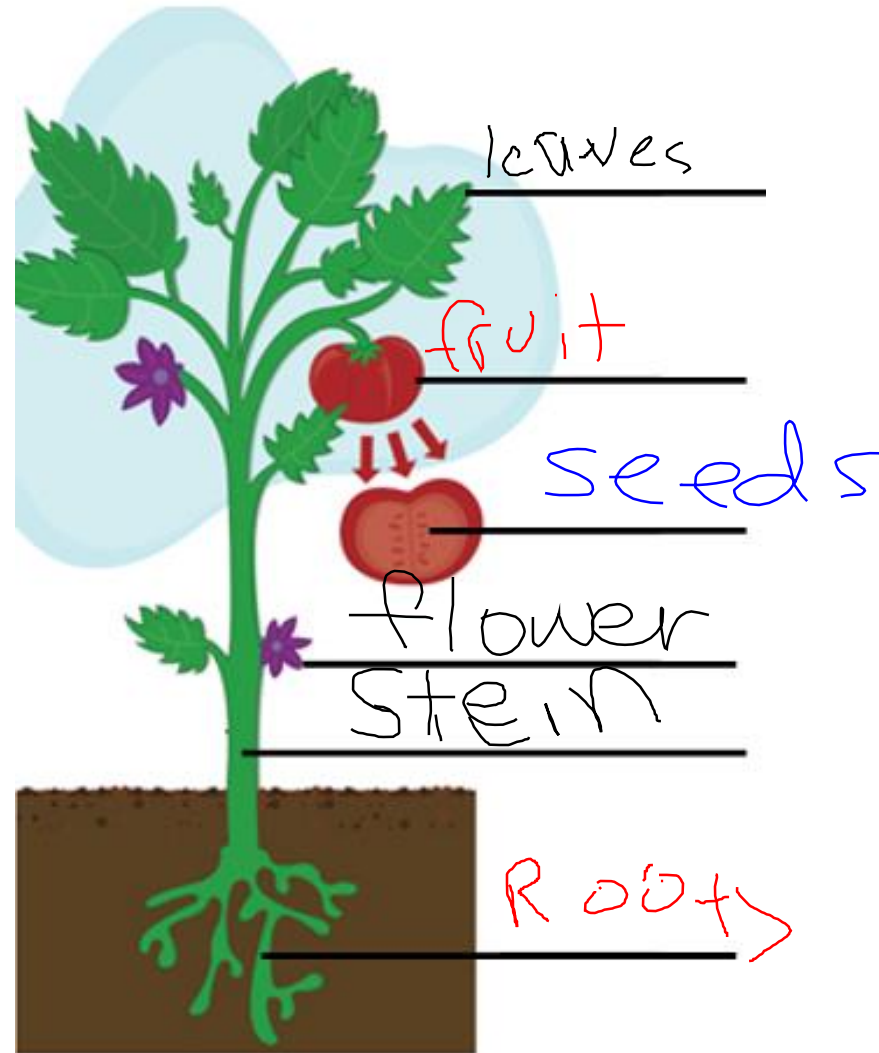
- the names of the different parts of the plants
- the function of the plant parts
- how plants reproduce — *job* — *make babies*
- the chemistry of how plants make energy
- the chemistry of how plants make food (glucose)

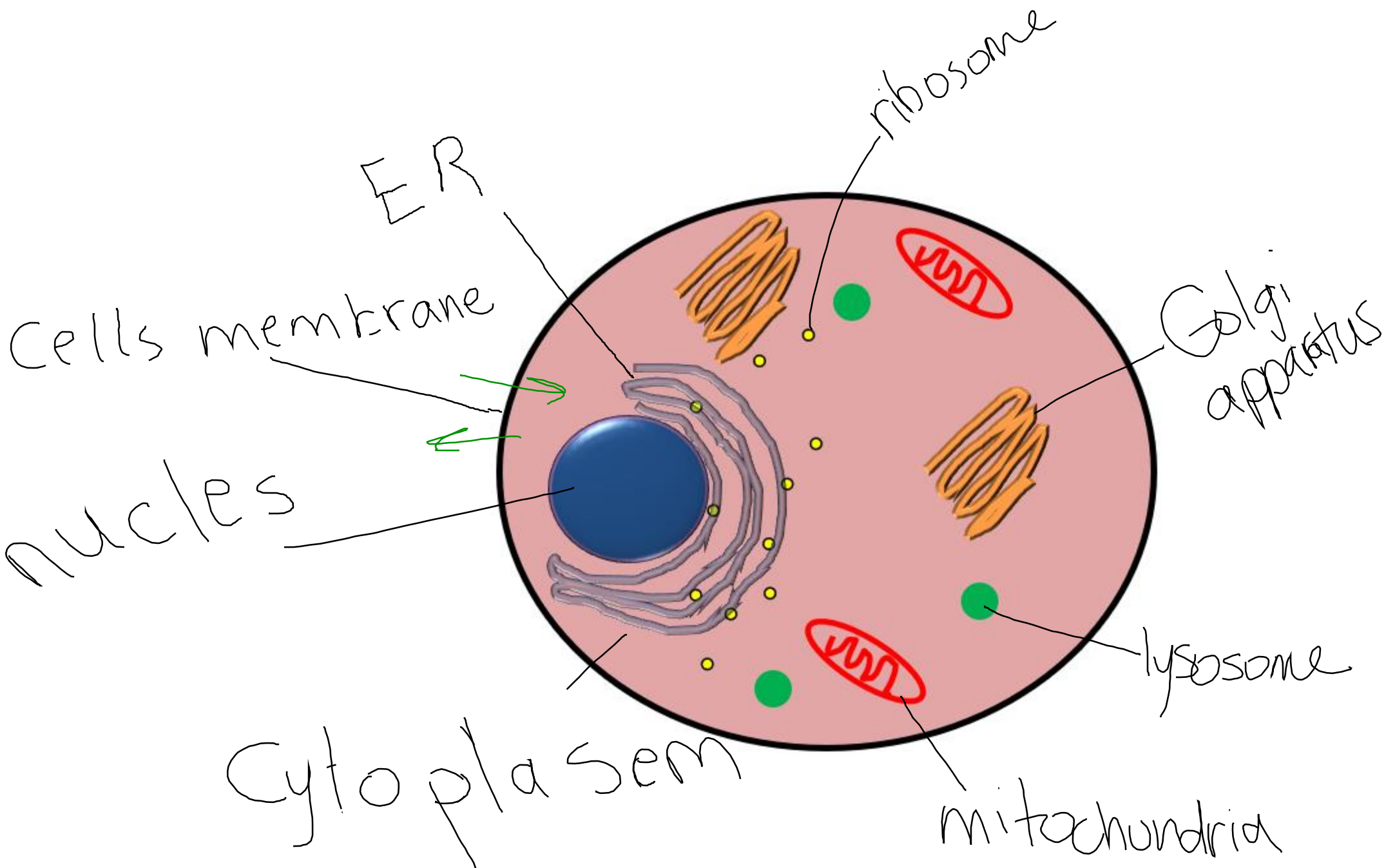
mixing materials together to make new and different materials.

Do you know the **names** of any of these plant parts?

Do you know their jobs?

Read to find out more...





Flowers
make a fruit.

It helps the plant
reproduce (make babies)

The fruit grows
from the flower. The
fruit is important
because it holds
the seeds.

The seed is
important because it
will grow into a new
plant when it is put
in the soil.



Roots keep the
plant in the ground.
They also take
up water and
nutrients from
the soil.

The leaf makes food
for the plant. It also
makes oxygen which is
the gas we breathe.

The stem connects
the leaves and flowers
to the roots. The
stem moves water
and food around
the plant.
The stem is like a
straw.

The roots
is the life of
the plants.

Quiz on Monday

- Cells & Organelles
- Plant parts & functions

→ humans are animals!

Plants and Animals

➤ **Plants and animals are the same in some ways. For example, we both:**

- grow
- need food
- need energy
- reproduce (make babies)



Plants and Animals Make Energy in their Cells



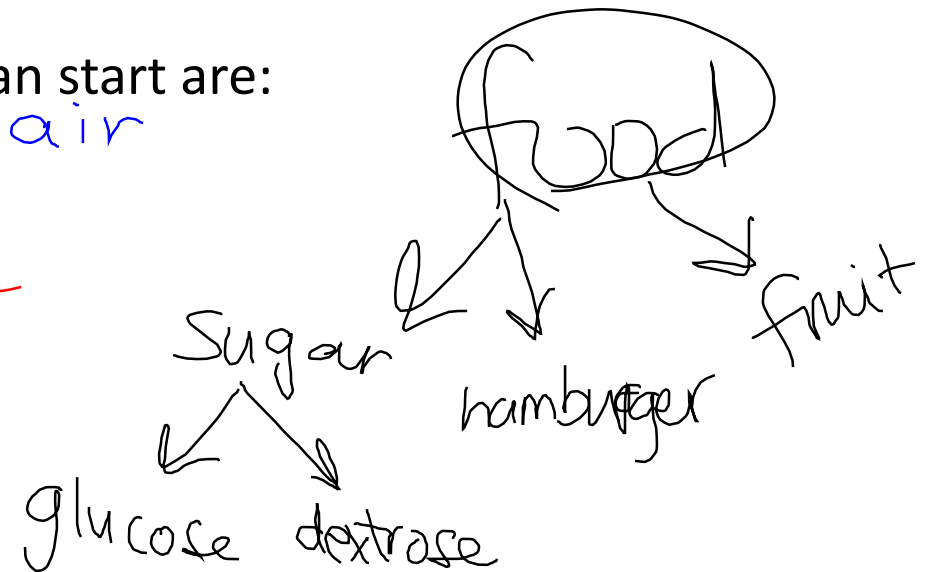
➤ Remember: The **organelle** responsible for making energy in the cell is called the Mitochondria.

➤ It makes **energy** for the cell through a chemical process called cellular respiration. (cell breathing)

➤ The 2 **chemicals** needed **before** cellular respiration can start are:

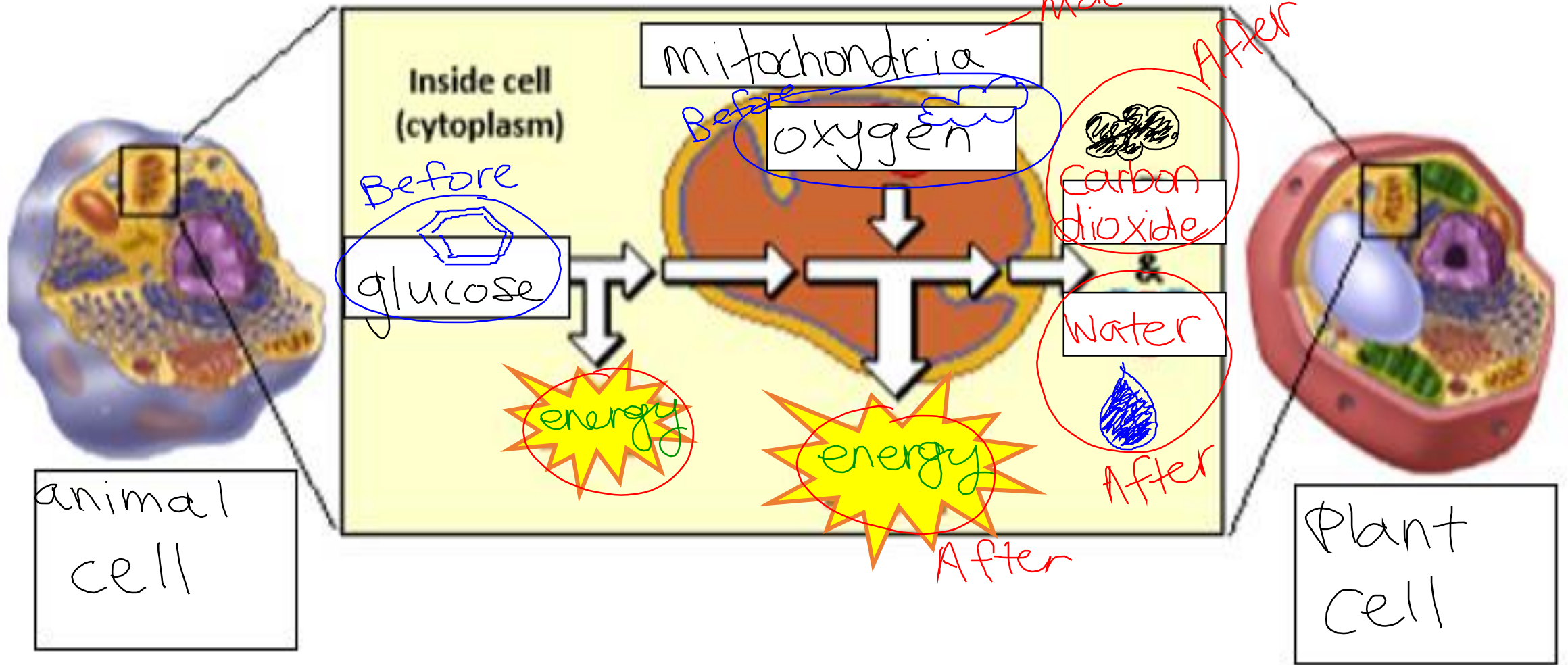
1. Oxygen - gas in the air

2. glucose (specific type of food that cells use)
Kind of sugar



Cellular Respiration

both plant & animals → MAKE ENERGY!



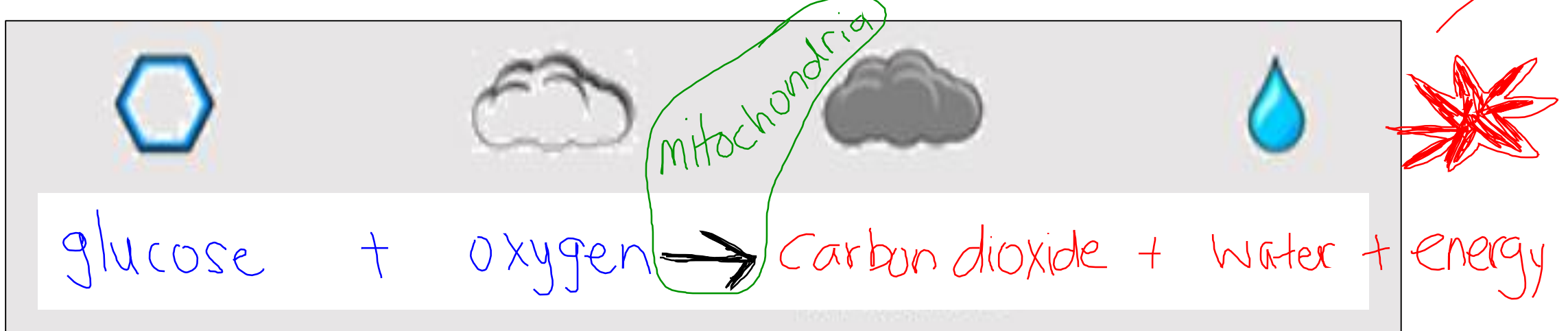
Cellular Respiration



➤ The 3 new chemicals made **after** cellular respiration happens are:

- carbon dioxide
- water
- energy

• We can model → a way of showing something you can't see with your eyes. cellular respiration like this:



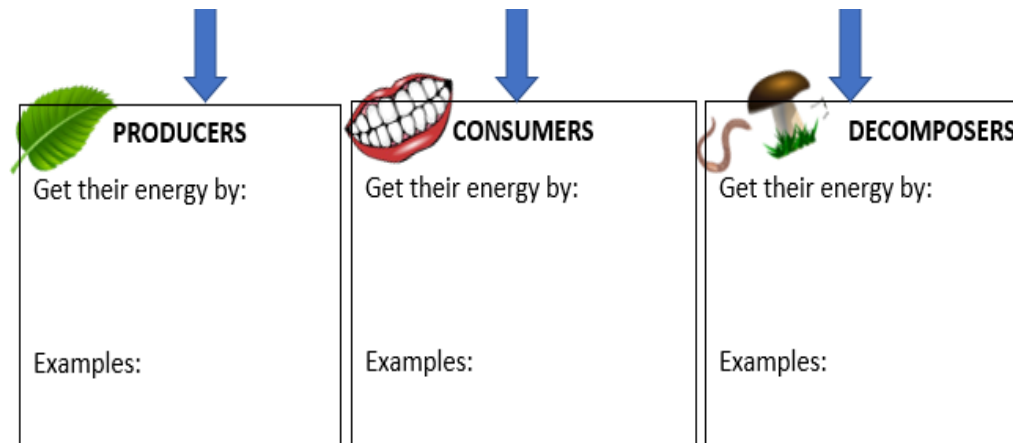
Plants and Animals



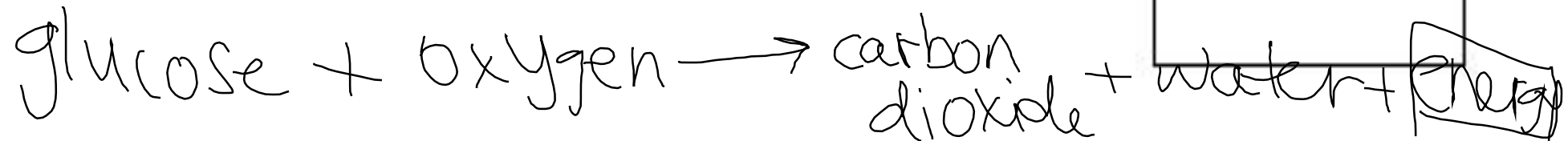
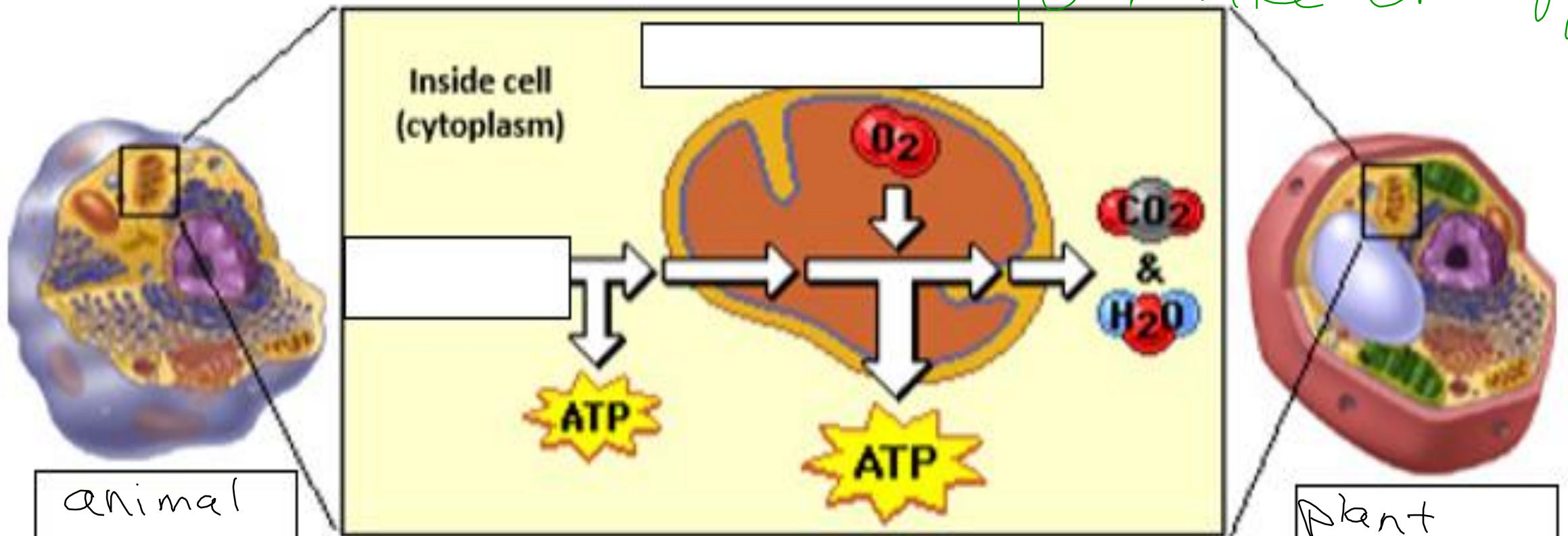
➤ Plants and animals are different in one important way. Plants are producers, meaning they can make their own food. Animals can not make their food. They are

consumers, meaning they must eat other organisms as food.

any living thing.



What is Cellular Respiration? *Cells breathing to make energy*

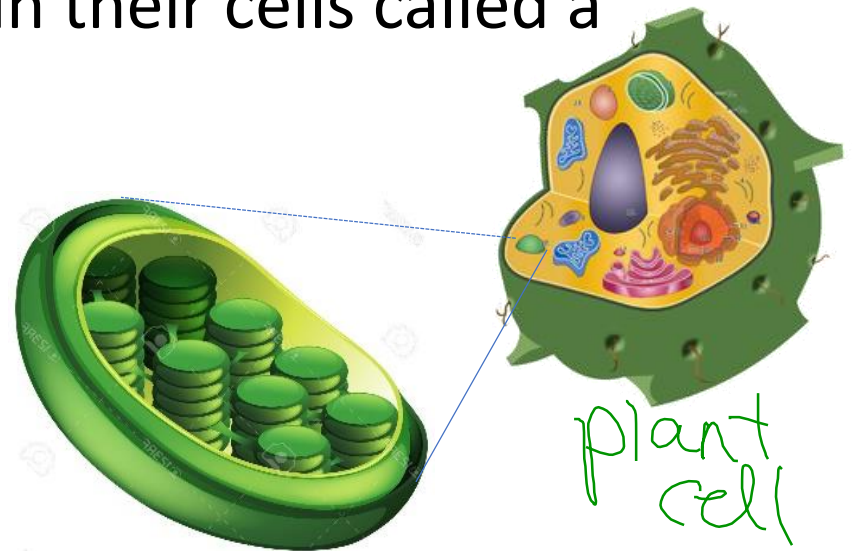


Plants Make Food



- Remember that the plant part whose job it is to capture light and make food is the leaves. For both animals and plants, the food cells need is called glucose (kind of sugar).
- Plants have a special organelle in their cells called a chloroplast.




Chloroplast →



Plants Make Food



➤ The chloroplast is special because it can make glucose
from only 3 things:

1. light from the sun 
2. water 
3. carbon dioxide from the air 

➤ When the chloroplast ^{in the} plant makes the food, it also makes oxygen. This is the same kind of gas that we need to breathe.

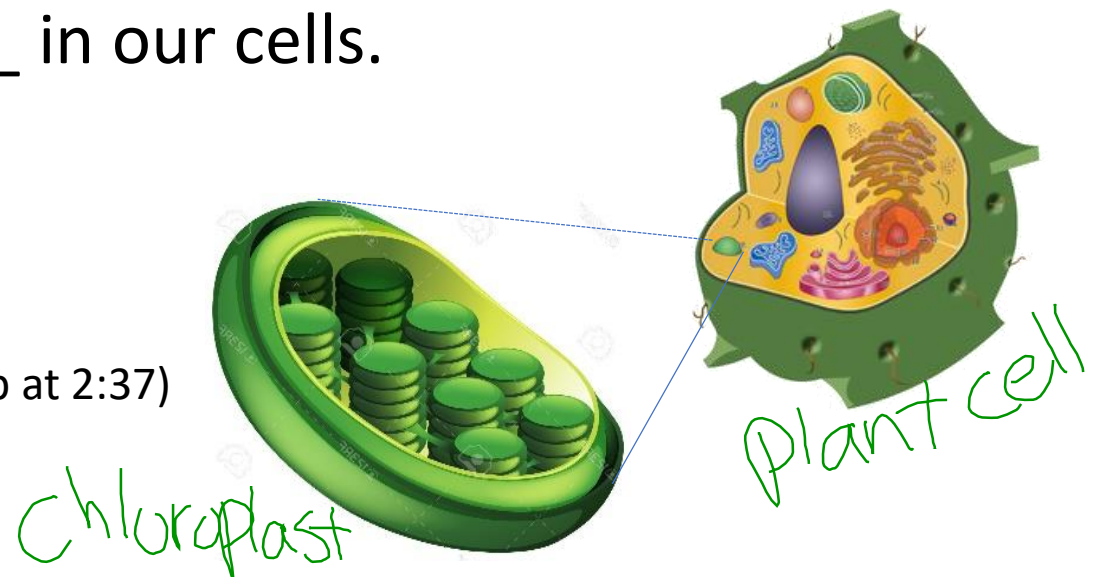


➤ This process of making glucose from carbon dioxide and water is called photosynthesis.

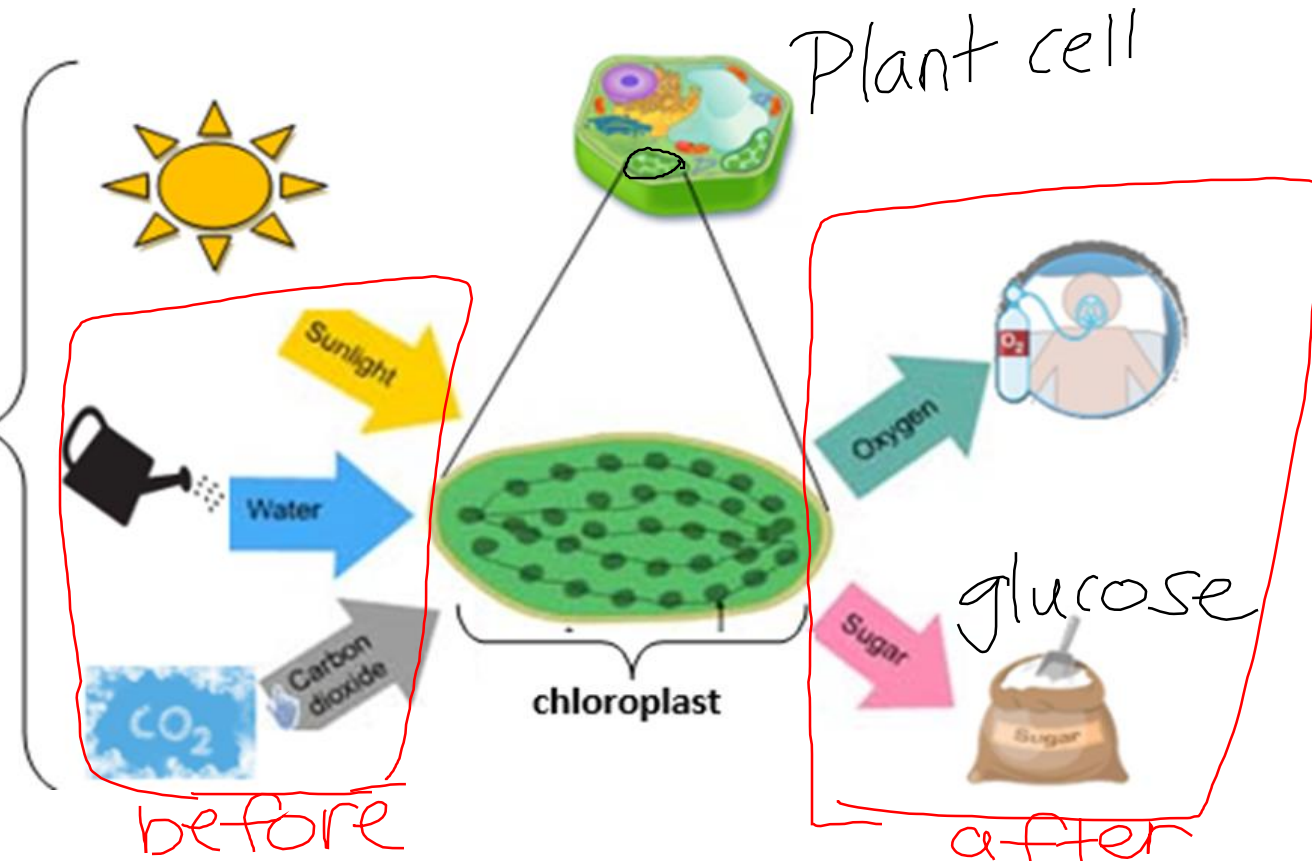
Animals can not do this process because we do not have chloroplasts in our cells.

Photosynthesis Video: <https://youtu.be/yHVhM-pLRXk> (6 mins)

Cellular Respiration Video: <https://youtu.be/7dKpnxEMzyw> (stop at 2:37)



Photosynthesis



➤ We can model photosynthesis like this:

